

# PATENT COOPERATION TREATY

# DOCKETED PCT



From the INTERNATIONAL SEARCHING AUTHORITY

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NOTIFICATION OF TRANSMITTAL OF  
THE INTERNATIONAL SEARCH REPORT  
OR THE DECLARATION

(MAY 16, 2001)  
(PCT Rule 44.1)

COPY

Date of mailing (day/month/year) 16/03/2000	
Applicant's or agent's file reference 147401 (BAL)	FOR FURTHER ACTION See paragraphs 1 and 4 below
International application No. PCT/CA 99/00850	International filing date (day/month/year) 17/09/1999
Applicant  BALLARD POWER SYSTEMS INC. et al.	

- ☒ The applicant is hereby notified that the International Search Report has been established and is transmitted herewith.  
Filing of amendments and statement under Article 19:  
The applicant is entitled, if he so wishes, to amend the claims of the International Application (see Rule 46):  
  
When? The time limit for filing such amendments is normally 2 months from the date of transmittal of the International Search Report; however, for more details, see the notes on the accompanying sheet.  
  
Where? Directly to the International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland  
Facsimile No.: (41-22) 740.14.35  
  
For more detailed instructions, see the notes on the accompanying sheet.
- ☐ The applicant is hereby notified that no International Search Report will be established and that the declaration under Article 17(2)(a) to that effect is transmitted herewith.
- ☐ With regard to the protest against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:
  - ☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.
  - ☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.
- Further action(s): The applicant is reminded of the following:  
  
Shortly after 18 months from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90bis.1 and 90bis.3, respectively, before the completion of the technical preparations for international publication.  
  
Within 19 months from the priority date, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later).  
  
Within 20 months from the priority date, the applicant must perform the prescribed acts for entry into the national phase before all designated Offices which have not been elected in the demand or in a later election within 19 months from the priority date or could not be elected because they are not bound by Chapter II.

Name and mailing address of the International Searching Authority  European Patent Office, P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer  Maria Van der Hoeven
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# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>147401 (BAL)</b>	<b>FOR FURTHER ACTION</b>		see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, Item 5 below.
International application No. <b>PCT/CA 99/ 00850</b>	International filing date (day/month/year) <b>17/09/1999</b>	(Earliest) Priority Date (day/month/year) <b>22/09/1998</b>	
Applicant  <b>BALLARD POWER SYSTEMS INC. et al.</b>			

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 4 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ Certain claims were found unsearchable (See Box I).

3. ☐ Unity of invention is lacking (see Box II).

4. With regard to the title,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

☐ the text is approved as submitted by the applicant.

☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

1A

☐ None of the figures.

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/CA 99/ 00850

## Box III TEXT OF THE ABSTRACT (Continuation of item 5 of the first sheet)

The abstract has to be changed as follows:

Line 1, after "loops" insert "(136)";

Line 2, after "systems" insert "(10)";

line 12, after "unit" insert "(158)".

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H01M8/04 F01P11/06 B60L11/18

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H01M F01P C09K B60L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 174 902 A (RICHARDSON ROBERT C ET AL) 29 December 1992 (1992-12-29) column 16, line 44 -column 17, line 52 column 9, line 9 - line 19 column 7, line 28 - line 35	1-6,8
X	US 4 946 595 A (MILLER JR ROBERT C) 7 August 1990 (1990-08-07) column 4, line 67 -column 5, line 22	1-3,7,8
X	PATENT ABSTRACTS OF JAPAN vol. 1996, no. 03, 29 March 1996 (1996-03-29) & JP 07 310070 A (HITACHI LTD;OTHERS: 01), 28 November 1995 (1995-11-28) abstract	1,2,6,8

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"A" document member of the same patent family

Date of the actual completion of the international search

10 March 2000

Date of mailing of the international search report

16/03/2000

Name and mailing address of the ISA

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Authorized officer

D'hondt, J

## C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	PATENT ABSTRACTS OF JAPAN vol. 1996, no. 11, 29 November 1996 (1996-11-29) & JP 08 185877 A (TOYOTA MOTOR CORP), 16 July 1996 (1996-07-16) cited in the application abstract	12-15, 19-21, 23, 25
A	US 3 576 677 A (KEATING STEPHEN J JR ET AL) 27 April 1971 (1971-04-27) column 3, line 46 - line 64	12
P, A	US 5 868 105 A (EVANS JOHN W) 9 February 1999 (1999-02-09) column 5, line 22 - line 25 column 21, line 20 - column 22, line 22; figure 6A	12-15, 19-21, 23
A	PATENT ABSTRACTS OF JAPAN vol. 014, no. 151 (E-0906), 22 March 1990 (1990-03-22) & JP 02 010664 A (MITSUBISHI ELECTRIC CORP), 16 January 1990 (1990-01-16) abstract	

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/CA 99/00850

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5174902	A	29-12-1992	US 5692461 A	02-12-1997
US 4946595	A	07-08-1990	NONE	
JP 07310070	A	28-11-1995	NONE	
JP 08185877	A	16-07-1996	NONE	
US 3576677	A	27-04-1971	GB 1221536 A	03-02-1971
			JP 48041352 B	06-12-1973
US 5868105	A	09-02-1999	AU 8071298 A	30-12-1998
			WO 9857052 A	17-12-1998
JP 02010664	A	16-01-1990	JP 2914665 B	05-07-1999